TITLE

USE OF THE KCNQ2 AND KCNQ3 GENES FOR THE DISCOVERY OF AGENTS USEFUL IN THE TREATMENT OF NEUROLOGICAL DISORDERS

ABSTRACT

This invention relates to the co-expression of KCNQ2 and KCNQ3 genes in an appropriate mammalian cell line (e.g., HEK 293E) to provide a preparation which could be used as a high-throughput screen for the discovery of agents that are either agonists or antagonists of the expressed potassium channel. Mutations in the voltage-gated potassium channel genes, KCNQ2 and KCNQ3, have been linked to inherited forms of epilepsy in humans. One or both of these genes are believed to encode the molecular identity of the M channel. Agonists of the M channel may be effective in the treatment of epilepsy, anxiety, insomnia or other hyperexcitability disorders whereas antagonists may be effective in the treatment of Alzheimer's disease, peripheral neuropathy or other neurodegenerative diseases.